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CONTRACT NO. N44255-95-D-6030
DO NO. 0095

FINAL
BASE-WIDE
HEALTH AND SAFETY PLAN

Revision 0
October 30, 2001

ALAMEDA POINT
ALAMEDA, CALIFORNIA

DCN: FWSD-RACII-02-0019

FOSTER WHEELER

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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DCN: FWSD-RACII-02-0019

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TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

PAGE

TABLE OF CONTENTS
(Continued)

PAGE

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ABIH	American Board of Industrial Hygiene
ACGIH	American Conference of Governmental Industrial Hygienists
AHA	Activity Hazard Analysis
APR	air purifying respirator
Base-Wide Plan	Base-Wide Health and Safety Plan
Cal-OSHA	California Occupational Health and Safety Administration
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
Corps	U.S. Army Corps of Engineers
COTR	Contracting Officer's Technical Representative
CPR	Cardiopulmonary Resuscitation
CRC	Contamination Reduction Corridor
dBA	decibels, A-scale
DO	Delivery Order
DoN	U.S. Department of the Navy
EHS	Environmental Health and Safety
ESQ	Environmental Safety and Quality
ESS	Environmental Safety Specialist
FCR	Field Change Request
FOPS	Falling Object Protective System
FWENC	Foster Wheeler Environmental Corporation
GFCI	Ground Fault Circuit Interrupters
HEPA	High Efficiency Particulate Air
IR	Installation Restoration
MSDS	Material Safety Data Sheet
MSHA	Mine Safety and Health Administration
NAS	Naval Air Station
NIOSH	National Institute for Occupational Safety and Health
NTR	Navy Technical Representative

ABBREVIATIONS AND ACRONYMS
(Continued)

OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PESM	Project Environmental Health and Safety Manager
PjM	Project Manager
PM	Program Manager
PPE	Personal Protective Equipment
QC	quality control
RCRA	Resource Conservation and Recovery Act
RPM	Remedial Project Manager
RQ	Reportable Quantity
SCBA	self-contained breathing apparatus
SHSP	Site-Specific Health and Safety Plan
SHSS	Site Health and Safety Specialist
TLV	Threshold Limit Value
TWA	Time-weighted average
UXO	unexploded ordnance

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Foster Wheeler Environmental Corporation (FWENC) has been contracted by the U.S. Department of the Navy (DoN) to conduct remedial actions for the cleanup of hazardous waste sites under Basic Contract N44255-95-D-6030. This Base-Wide Health and Safety Plan (Base-Wide Plan) applies to all work performed under this contract at the former Naval Air Station (NAS), now referred to as Alameda Point in Alameda, California. The FWENC Health and Safety Program for Alameda Point consists of this document, the FWENC Corporate Health and Safety Program Manual, and Site-Specific Health and Safety Plans (SHSPs) to be written for individual Delivery Orders (DOs).

1.2 APPLICATION

The Contract Health and Safety Program is applicable to all work conducted by FWENC and FWENC subcontractors under the basic contracts and/or individual DOs. Essentially equivalent or additional health and safety procedures and practices may be approved by FWENC and implemented by FWENC subcontractors where necessary. All subcontractors are required to follow the FWENC Health and Safety programs and procedures unless less restrictive or less conservative practices are approved by the FWENC Project Environmental Health and Safety Manager (PESM), who is a Certified Industrial Hygienist (CIH), and the Navy Contracting Officer. The FWENC PESM will review FWENC and subcontractor SHSPs prior to the initiation of fieldwork.

1.3 APPLICABLE STANDARDS, REGULATIONS, AND GUIDANCE DOCUMENTS

Adherence to applicable portions of federal, local, national consensus organization, and corporate health and safety standards, regulations, and guidance manuals is required during field activities. These include, but may not be limited to, the following:

- 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health Standards, General Industry.
- 29 CFR, Part 1926, Occupational Safety and Health Standards, Construction Industry.
- 10 CFR, Part 20, Nuclear Regulatory Commission.
- State Regulations including Title 8 California Code of Regulations (CCR) California Occupational Health and Safety Codes (Cal-OSHA) and Title 24 CCR (Health and Safety Code).

- FWENC Corporate Health and Safety Program Manual.
- DoN/Marine Corps Installation Restoration Manual, August 2000.
- U.S. Army Corps of Engineers (Corps) Safety and Health Requirements Manual, EM 385-1-1, 3 September 1996.
- Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists (ACGIH), most current publication.
- Occupational Safety and Health Guidance for Hazardous Waste Site Activities, U.S. Department of Health and Human Services et al., October 1985.

1.4 SUMMARY OF MAJOR RISKS

The SHSP for each DO will describe the major risks for the specific work proposed in a project. All known or potential physical and chemical hazards that may pose a threat to the health and safety of site workers must be identified to ensure workers are adequately protected. Evaluation of work site characteristics and hazards is an ongoing process and will continue throughout the duration of the project.

There is potential unexploded ordnance (UXO) and chemical contamination in various areas of the facility. The contaminants may include fuels, solvents, metals, oils, polychlorinated biphenyls (PCBs), and pesticides. A security fence surrounds the entire facility so hazards associated with the general public are not significant.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

2.1 PROGRAM MANAGER

The Program Manager (PM) has the overall responsibility for the health and safety of site personnel at all projects under this contract. The PM will ensure that adequate resources are provided to the field health and safety staff to carry out their responsibilities as outlined below. The PM will also ensure that fieldwork is scheduled with adequate personnel and equipment resources to complete the job safely.

2.2 PROJECT MANAGER

The Project Manager (PjM) is responsible for managing all technical and business aspects of the project. This includes the development of the best technical approach and budget for the contract task order scope, managing technical, cost, schedule, and project issues as work progresses, and subcontractor oversight. The PjM will also ensure that adequate personnel and resources are available to complete the project safely. The PjM will conduct monthly health and safety inspections of the job site.

2.3 PROJECT SUPERINTENDENT

The Project Superintendent is responsible for ensuring that all work is performed in accordance with the contract requirements in a safe and healthful manner. The Project Superintendent will ensure that work crews have adequate resources to effectively conduct field activities, ensure [in conjunction with the Site Health and Safety Specialist (SHSS)] that proper protective equipment is being used by all personnel, enforce appropriate disciplinary actions when health and safety requirements are not being followed or when unsafe practices occur, and oversee work practices to verify they are in accordance with the SHSP. The Project Superintendent has the authority to suspend field activities if the health and safety of personnel are in danger.

The Project Superintendent will submit to the Navy Contracting Officer's Representative (COTR), upon request, copies of the certificates (or acceptable alternative documents) of most recent health and safety training required by 29 CFR, Part 1910.120 for all the personnel who will be working on site. Copies of the training certificates (or acceptable alternative documents) will also be kept at the work site.

2.4 PROJECT ENVIRONMENTAL HEALTH AND SAFETY MANAGER

The PESM is responsible for implementing and overseeing the Contract Health and Safety Program and to develop, implement, and approve all SHSPs. Any changes to the established Contract Health and Safety Program or SHSP is at the direction and approval of the PESM, with concurrence of the Navy Contracting Office. The PESM or designee will not necessarily be on site during all remedial activities, but will be readily available for consultation when required.

The PESM or designee is a CIH certified by the American Board of Industrial Hygiene (ABIH). The PESM supervises and directs the activities of the SHSS. The PESM has the authority to stop unsafe operations, remove unqualified personnel from the work area, and approve changes to the SHSP. Duties of the PESM include:

- Overseeing all aspects of the SHSP from development to implementation.
- Advising the SHSS on all related health and safety aspects.
- Reviewing site-specific plans for completeness and compliance.
- Reviewing other site documents as they affect health and safety (e.g., Activity Hazard Analyses, Sampling Plans).
- Reviewing and evaluating all monitoring results.
- Establishing and monitoring all related health and safety procedures through site safety inspections and audits.

2.5 SITE HEALTH AND SAFETY SPECIALIST

The SHSS will be present on site as required during the conduct of field operations and is responsible for all health and safety activities and the delegation of duties to the health and safety staff in the field. The SHSS is responsible for implementation of the SHSP, overseeing that appropriate personal protective equipment (PPE) is used relative to the hazard which may be encountered, verifying that communication systems are in place, monitoring conformance with safety and emergency response procedures, giving safety briefings, seeing that safety equipment is maintained, and conducting safety drills and exercises. The SHSS or designee is responsible for the setup and execution of decontamination procedures. The SHSS has stop work authorization, which will be executed upon determination of an imminent safety hazard or potentially dangerous situation. Work cannot restart until clearance has been authorized by the SHSS. The SHSS is responsible for maintaining the site health and safety log books.

The SHSS possesses the knowledge and experience necessary to ensure that all elements of the approved SHSP are implemented and enforced on site. FWENC employs full-time personnel as Environmental Safety Specialists (ESSs) and personnel who have been cross-trained as an ESS. The ESS is the equivalent of the SHSS. Each FWENC SHSS has a minimum of one year work experience with hazardous materials and has completed a minimum of 40 hours additional specialized training in personal and respiratory protective equipment, program implementation,

and in proper use of air monitoring instruments, air sampling methods, and interpretation of results. Every SHSS is certified as having completed training in first aid and cardiopulmonary resuscitation (CPR) by a recognized organization such as the American Red Cross Association.

2.6 SITE PERSONNEL

A list of personnel authorized to have access to the remediation or work site will be compiled and maintained on site by the SHSS. This list will include employees of FWENC, subcontractors, and representatives of governmental agencies that may require access, where possible. All authorized personnel shall meet the requirements of the contract task order SHSP and be approved by the SHSS or Project Superintendent prior to entering any exclusion zone or controlled area when potentially hazardous activities are being conducted.

Although the employer is responsible for providing a safe and healthful work place, each employee is responsible for their own safety as well as the safety of those around them. Employees will use all equipment provided in a safe and responsible manner as directed by the Superintendent. All FWENC personnel will follow the policies set forth in this SHSP and in the FWENC Health and Safety Program Manual. Each employee is responsible for reporting any injuries, incidents, and safety infractions to a project supervisor or the SHSS so treatment can be obtained and/or corrective action taken. Equipment operators are responsible for the maintenance, inspection, and safe operation of their equipment. They will report any equipment malfunctions or necessary repairs to a project supervisor.

2.7 SUBCONTRACTED PERSONNEL AND THIRD PARTIES

All subcontracted personnel are responsible for compliance with this SHSP and other applicable regulations. Subcontractor personnel must receive a briefing from the SHSS prior to unescorted access to the project site. They must fulfill the requirements established by this plan and the site-specific plans. They must acknowledge receipt of the plan and the hazard communication briefing. On-site subcontractors are responsible for providing their personnel with appropriate PPE as specified by the plan. Subcontractor and third party personnel have the authority to request a work area hazard assessment by the SHSS prior to the commencement or continuation of work.

3.0 SITE HISTORY AND PROJECT DESCRIPTION

3.1 SITE HISTORY AND PROJECT DESCRIPTION

Alameda Point is located on the West end of Alameda Island, which lies on the East side of San Francisco Bay adjacent to the City of Oakland. Alameda Point is rectangular in shape, approximately 2 miles long east to west, 1 mile wide north to south, and occupies 1,734 acres. Prior to 1930, at least two large industrial sites, a borax processing plant and an oil refinery, were located on the island near what is now the eastern end of the former NAS Alameda. The refinery was located at the site of the present-day Installation Restoration (IR) Site 13.

The U.S. Army first acquired the former NAS Alameda site from the city of Alameda in 1930 and began construction activities in 1931. The DoN acquired title to the land from the Army in 1936 and began building the air station in response to the military buildup in Europe prior to World War II. After the 1941 entry of the United States into the war, more land was acquired adjacent to the air station. Following the end of the war, the former NAS Alameda returned to its original primary mission of providing facilities and support for fleet aviation activities.

Projects at Alameda Point could include surveys, additional sampling and characterization, additional screening for UXO materials or ordnance debris, installation or removal of groundwater monitoring wells, and other work associated with restoration of the sites.

4.0 POTENTIAL HAZARDS

The SHSP for each DO will discuss the specific chemical, physical, and environmental hazards to workers on each specific site. The SHSP will discuss each contaminant and include information such as exposure limits and signs and symptoms of exposure. The SHSP will discuss site-specific physical hazards identified with the site including those associated with construction, use of heavy equipment, fire hazards, and electrical hazards. This Base-Wide Plan discusses the general hazards associated with most projects. The SHSP will describe site-specific environmental hazards, although most environmental hazards are associated with the physical location of the base and weather conditions such as heat stress, noise, and flora and fauna contact and are, therefore, described in this Base-Wide Plan.

4.1 CHEMICAL HAZARDS

The chemicals believed to be on a specific site, based on analytical data provided by previous investigations will be discussed in each SHSP. Material Safety Data Sheets (MSDS) for the contaminants and any additional chemicals found on a site or brought onto a site will be acquired and reviewed with all personnel during daily safety meetings. An attachment to the site SHSP will contain the MSDSs. The PESM and the SHSS will specify the levels of protection and air-monitoring requirements based initially on the data provided or obtained prior to remediation work. These requirements may change as site conditions are more fully evaluated when work is underway.

FWENC's protective equipment requirements combined with the requirement to wash arms, face, and hands before eating or smoking should prevent exposure through these routes. In addition, the project SHSS and project supervisors observe and warn the crew members to be aware of the initial symptoms of chemical exposure. The amount of exposure depends primarily on the specific activities undertaken and the care with which the activities are performed. A supervisor will remove any crew member from the work site and have the worker medically evaluated if the following initial symptoms persist and are unexplained by other causes (such as allergy, common cold, heat stress, etc.):

- Dizziness or stupor
- Nausea, headaches, or cramps
- Irritation of the eyes, nose, or throat
- Euphoria
- Chest pains and coughing
- Rashes or burns

4.1.1 Hazard Communication Program

The purpose of a Hazard Communication or Employee Right-To-Know program is to ensure that the hazards of all chemicals located at this field project site are communicated according to 29 CFR, Part 1926.59 8 CCR, Section 5194 regulations to all FWENC personnel and subcontractors. FWENC Environmental Health and Safety (EHS) Procedure 4-2 is the written hazard communication program. This program requires:

- ***Container Labeling***--Personnel will ensure that all drums and containers are labeled according to contents. These drums and containers will include those from manufacturers and those produced on site by operations. All incoming and outgoing labels will be checked for identity, hazard warning, and name and address of responsible party.
- ***MSDSs***--There will be an MSDS located on site for each hazardous chemical used or known to be on site.
- ***Employee Information and Training***--Training employees on chemical hazards is accomplished through formal safety training conducted annually and informal safety meetings. Project-specific chemical hazards are communicated to employees through an initial site orientation meeting and during daily safety meetings held at field projects.

4.2 ENVIRONMENTAL HAZARDS

The SHSS or a supervisor will discuss environmental hazards associated with each site at the orientation meeting prior to start up of remediation activities.

4.2.1 Least Tern Nesting Sites

There are California Least Tern nesting sites on Alameda Point. No field activities may be conducted in these areas between April and September.

4.2.2 Weather and Heat Stress

With the possible combination of ambient factors such as high air temperature, a few days with high relative humidity, low air movement, high radiant heat, and protective clothing, the potential for heat stress is a concern. The potential exists for:

- Heat rash
- Heat cramps
- Heat exhaustion
- Heat stroke

The FWENC EHS Procedure 4-6 describes the heat stress management and prevention program. At 75°F, ambient temperature, the supervisor on site initiates the procedures in the program.

Heat stroke, heat cramps, and heat exhaustion are covered in detail during the 40-Hour Occupational Safety and Health Administration (OSHA) 29 CFR, Part 1910.120 (8 CCR, Section 5192) pre-employment course. In addition, this information is discussed during a safety "tailgate" meeting before each workday where heat stress may be a factor. Workers are encouraged to increase consumption of water and electrolyte-containing beverages such as Gatorade during warm weather. Water and electrolyte-containing beverages will be provided onsite and will be available for consumption during work breaks.

At a minimum, workers will break every two hours for 10 to 15 minute rest periods. In addition, workers are encouraged to take rests whenever they feel any adverse effects, especially those effects that may be heat-related. The frequency of breaks may need to be increased upon worker recommendation or decision of the SHSS and a supervisor.

The EHS procedure also describes a cold stress program; however, due to the location of the former NAS, it is unlikely that there will be a need for this program.

4.2.3 Hearing Conservation Program

On projects where noise levels may exceed a time-weighted average (TWA) of 84 dBA (decibels, A-scale), hearing protection will be made available to all exposed employees. Additionally, sound level monitoring may be conducted onsite. All FWENC personnel on project sites have annual audiograms. Personnel with a standard threshold shift will be restricted from high noise exposure or will be required to wear hearing protection at all times. FWENC, EHS Procedure 4-4, is a hearing conservation program in compliance with OSHA regulations (29 CFR, Part 1910.95) (8 CCR, Sections 5095 –5100).

4.2.4 Biological Hazards

Biological hazards may be encountered on site. Workers should anticipate the increased likelihood of encounter of these hazards, especially in and around buildings and in undeveloped outdoor areas. Animal bites and insect stings can cause localized swelling, itching, and minor pain that can be handled by first aid treatment. In sensitized individuals, however, effects can be more serious such as anaphylactic shock, which can lead to severe reactions in the circulatory, respiratory, and central nervous system, and in some cases, even death. The SSHS will identify personnel with a known reaction to bites and stings at the pre-job safety orientation meeting. Personnel will not attempt to capture any wild or semi-wild animals such as cats or rats due to the possibility of a bite or parasitic infestation.

- Poison oak causes discomfort, irritation, and inflammation of the skin. Personnel will be warned to prevent contact with unknown plants. Protective clothing worn by site personnel should reduce the probability of such exposure. Cleaning the skin thoroughly with soap and water after contact will also reduce risk of severe symptoms.
- Animal and bird droppings often contain mold, fungus, or bacteria that represent a significant respiratory hazard including lung diseases and allergies. Personnel will not touch visual droppings, and will wear gloves and Tyvek protective wear, at a minimum, when going into normally limited access areas such as crawl spaces and high ceilings that may have become refuges or nesting areas.
- The hanta virus is sometimes transmitted by rodents found in the Southwestern United States, and causes respiratory distress, sometimes with fatal consequences. Similarly rats transmit the arenavirus. Transmission of the hanta virus or arenavirus occurs with exposure to rodent droppings. Good hygiene practices such as washing hands and face prior to eating and drinking will help to minimize the potential for exposure to the hanta virus. While work is in progress, use of high efficiency particulate air (HEPA) filter cartridges and work practices that minimize generation of dust and aerosols, will help protect employees. Avoiding areas where there are concentrations of mouse droppings (hanta virus) or rat droppings (arenavirus), for example, minimizes exposure to either virus. The virus can be inhaled in the dust from areas where mice or rats have nested or left their droppings. Minimizing dust inhalation or avoiding these areas will lessen the risks of exposure. Any work in such areas should be done only with full Level C protection including, at a minimum, a HEPA air-purifying respirator. Thorough washing of hands and face after removing the PPE will further minimize the potential for exposure.
- The area may have ground squirrels. Within certain areas of California, ground squirrels are known to have fleas that are a vector for the spread of the bacteria that causes plague. Plague is treatable with antibiotics. Workers should avoid working close to any ground squirrels and when necessary wear insect repellant.
- Personnel must use extreme caution when walking through an area, around buildings, and near objects such as drum and containers where a snake is likely to rest during the daytime. If a snake is encountered, slowly and quietly back away from the snake and inform all personnel of its location. Do not attempt to move or kill a snake as certain snakes are protected under state and federal laws. In the event of snakebite, do not try to move the affected individual. Wipe off the skin, as the venom will attack intact skin. Do not suck out the venom. Do not cut open the wound. Do not apply ice or ice packs. Do not use a tourniquet. Do not administer alcohol or medications. Call for medical assistance.

4.2.5 Storm Protection

If a warning of gale-force winds is issued, take precautions to minimize danger to persons, and protect the work and any nearby property. Precautions will include closing of all openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close all openings in the work site if storms of a

lesser intensity pose a threat to property. The SSHS will ascertain predicted daily weather conditions by listening to daily weather forecasts on radio or television. If particularly ominous weather conditions are predicted, the SSHS will monitor radio broadcasts regularly or through National Weather Service reports. Workers will not enter any excavations during a rainstorm. The supervisor or SHSS will stop all work when wind speeds are 25 miles per hour or higher. The supervisor and the SHSS will assess what work procedures can be safely performed when wind conditions exceed 25 miles per hour. They will give consideration to fugitive dust and odor emissions, the safety of equipment in high winds, and protection of workers from flying debris and dust in windy conditions. No crane or boom work is permitted in winds at 25 miles per hour or higher. (Certain crane manufacturers may specify lower wind speed limitations for safe operations. The SHSS must ensure that operational limitations of these cranes are not exceeded.)

4.3 PHYSICAL HAZARDS

There are numerous physical hazards associated with a project, which if not identified and addressed, could present accidents and personal injury to the work force, as well as operational problems. In order to minimize physical hazards, FWENC has developed standard safety protocols, which will be followed at all times. Failure to follow safety protocols or continued negligence of these policies will result in discipline of the employee. The FWENC Project Rules Handbook states the Health and Safety Project Rules and Guidelines. Some of these are described in this section and in Section 10 of this plan. Any site-specific rules are stated in the SHSP. All FWENC personnel will follow these requirements as specified here and in the Project Rules Handbook. Supervisors will observe the general work practices of each worker and enforce safe procedures to minimize physical hazards. Hard hats, safety glasses, and safety boots are required in all areas of the work site, unless specifically exempted by the PESM, SHSS, or a supervisor.

4.3.1 Tripping, Slipping, and Falling Hazards

Supervisors will remind personnel and subcontractors daily to maintain sure footing on all surfaces. The supervisor and/or the SHSS will inspect all work areas prior to the start of work to look for hazards. Any personnel working six feet above any surface, including man lifts, are required to wear safety harnesses and safety lanyards. The SHSS will inspect these before use. In order to minimize tripping hazards caused by debris, job supplies, and equipment, personnel will remove this material from the work areas daily and stockpile the materials and place equipment in storage areas. The SHSS will enforce this "housekeeping" effort throughout the day. Workers will not work near the edges of excavations without fall protection.

4.3.2 Head and Back Injuries

At a minimum, workers will don hard hats, safety boots, and safety glasses prior to performing any site activities. This will prevent minor injuries caused by bumping one's head while working around and under piping and other process related structures or equipment. Personnel are

instructed in proper lifting techniques and will not lift heavy items without assistance per FWENC EHS Procedure 3-1. Each worker will not lift more than 50 pounds. Objects heavier than 50 pounds require assistance from another person. Supervisors will use mechanical lifting equipment whenever possible to minimize worker exposure to lifting hazards.

4.3.3 Falling Objects

All items raised will be slowly lowered to the ground using a grapple and/or skip bucket. No personnel will work under equipment at any time. Also, the SHSS will ensure that an adequate area is clear of personnel while the equipment is in operation. Dump truck drivers will remain in their trucks while soil and debris is placed in their trucks, if their trucks are equipped with a Falling Object Protective System (FOPS). If their trucks are not equipped with FOPS, the drivers will get out of their trucks and stand clear of the loading operation. Workers will not work under other workers who are on scaffolds or levels higher than them unless those levels have protection to prevent objects from falling on workers below.

4.3.4 Heavy Equipment and Traffic

The use of heavy equipment for debris removal, excavation, and lifting presents the greatest potential for injury to personnel. In order to minimize these hazards, the PjM and supervisor will designate routes for mobilization through the NTR and establish specific traffic patterns. All trucks and heavy equipment will have spotters for backing maneuvers. Only qualified personnel will operate heavy equipment. Those crewmembers directly involved with spotting for the operator are the only personnel allowed in the vicinity of the heavy equipment. All others will remain a safe distance away from these operations. Personnel needing to approach heavy equipment while operating will observe the following protocols:

- Make eye contact with the operator (and spotter)
- Signal the operator to cease heavy equipment activity
- Approach the equipment and inform the operator of intentions

All FWENC personnel will follow all local traffic rules. Company vehicles will yield to all bikes and pedestrians. Personnel working in areas subject to vehicular traffic (i.e. streets, parking lots, etc.) will wear orange safety vests. Flashing light or reflectorized barricades will be used for all roads that are blocked due to equipment or excavation. Coordinate all traffic management issues with the Remedial Project Manager (RPM) and facility security.

4.3.4.1 Site Pre-Inspection of Equipment

The projects will only use heavy equipment that is in safe working order. To maintain this policy, the project supervisor(s), the SHSS, and the equipment operator will inspect all equipment brought onto the project site for structural integrity, smooth operational performance,

and proper functioning of all critical safety devices in accordance with the manufacturer's specifications and safety regulations. There will be an operator's manual for each heavy equipment and vehicle. All equipment not conforming to the operational and safety requirements set forth during this inspection will not be put into service until all necessary repairs are made to the satisfaction of the inspection group. The vendor providing the equipment or contractors that bring their equipment to the projects must provide a certificate from a mechanic that the equipment has been inspected and is acceptable for use.

4.3.4.2 Operator Qualifications

Only qualified operators familiar with the equipment to be used will be permitted to operate. Subcontractors will supply proof of their operator's capability and experience to operate the equipment in a safe manner. FWENC reserves the right to remove from the project site any operator if there is a question or doubt concerning the operator's capabilities. There are specific training requirements for industrial truck (forklift) operators and for crane operators. These requirements are specified in the FWENC EHS procedures and the U.S. Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual.

4.3.5 Electrical Hazards

In order to prevent accidents caused by electric shock, the project SHSS will inspect all electrical connections on a daily basis. The SHSS will shutdown and lockout any equipment that is found to have frayed or loose connections until a qualified electrician is contacted and repairs are made. The equipment will be de-energized and tested before any electrical work is done. All equipment will be properly grounded prior to and during all work. In addition, Ground Fault Circuit Interrupters (GFCIs) will be installed for each circuit between the power source and tool. In the event that generators are used to supply power, these generators will contain GFCIs.

4.3.6 Confined Space Entry

A confined space is any enclosed area having a limited means of egress where ventilation is not adequate to remove a toxic or flammable atmosphere or oxygen deficiency, which may exist. Examples of confined spaces include, but are not limited to, the following: tanks; boilers; vessels; bins; manholes; tunnels; pipelines; underground utility vaults; or any open top space more than four feet in depth such as pits, tubes, trenches, or vessels.

EHS Procedure 6-1 outlines procedures in detail. No confined space entry is allowed per this plan. Prior to the start and during the conduct of each DO, the PESM, the SHSS and the project supervisor(s) will identify confined spaces or confined spaces created by the nature of the work. The SHSS will identify these confined spaces and will not allow entry into these spaces. If a confined space requires entry, the plan will be modified and approved per the amendment procedure described in this Base-Wide Plan.

4.3.7 Fire and Explosion Hazards

Atmospheric testing with a combustible gas indicator must be performed to determine the potential for a flammable atmosphere. A hot work permit must be issued to control the presence of equipment or operations producing open flames or sparks. Hot work permits and procedures are found in EHS Procedure 6-5. Permits are issued by the SHSS. The SHSS must also obtain a hot work permit from the Alameda Fire Department. The SHSS must establish a fire prevention and protection program by insuring that flammable materials are properly stored and that safe work procedures and rules are followed. Smoking is not permitted anywhere on a project site except in designated areas.

4.3.8 Drilling

Any drilling will be performed in accordance with EM 385-1-1, 16.M. A survey of the job site to identify overhead electrical hazards, potential ground hazards, and underground utilities must be performed before placement of the drilling equipment. MSDSs for drilling fluids must be provided to the SHSS before the start of work. Supervisors will ensure that a call has been made to Underground Service Alert (Dig Alert) and that drawings and maps from public works are reviewed to verify that there are no underground utilities that will be disturbed by the drilling operation.

4.3.9 Overhead Electrical Hazards

Overhead power lines may present a hazard to equipment and personnel. To prevent equipment contact with power lines and to prevent arcing, adequate clearance must be maintained. For lines rated 50 kV or below, the minimum clearance between the lines and any part of the crane or load will be 10 feet. For lines rated more than 50 kV, the minimum clearance between the lines and any part of the crane or load will be 10 feet plus 0.4 inch for each kV more than 50 kV.

4.3.10 Excavation Safety

Any excavation or trenching operation that is four feet or more in depth will be performed in accordance with EM 385-1-1 and EHS Procedure 6-3. A FWENC excavation permit must be completed by a competent person before excavation commences and at least each day thereafter. This permit requires daily inspections of the operation and adjacent areas. Specific situations addressed in these inspections are possible cave-ins, indications of failure of protective systems (benching, sloping, or shoring), hazardous atmospheres and other hazardous conditions. If the competent person finds evidence of any of these situations, exposed employees will be removed from the hazardous area until the necessary precautions have been taken to ensure their safety. In addition to the excavation permit, for work in California, a Cal-OSHA Activity Notification Form for Holders of Annual Excavation Permits must be filed with Cal-OSHA for any excavation 5-feet or greater in depth into which workers will enter. FWENC has an annual permit for excavations in the state of California. Also, Dig-Alert must be notified before any

excavation work begins regardless of depth. Exploratory techniques, such as "pot-holing" will be performed to insure that any excavation near utilities can be performed safely. Dust suppression measures may include the use of a compound, which will make the soil less likely to dust or use water. However, work procedures as soil is moved and especially as it is lifted and loaded must be performed in such a way to minimize the generation of dust. For example, loaders dumping soil into a dump truck or a stockpile may have to lower the bucket as close as possible to the truck or stockpile before dumping to reduce the drop height of the soil and, thereby, reduce the amount of dust generated.

5.0 ACTIVITY HAZARD ANALYSES

Each SHSP will have a section that evaluates the risks and associated precautions for remediation activities associated with the site-specific activities. An AHA is developed for each planned activity and operation occurring in each major phase of work. This AHA identifies the sequence of work, specific hazards anticipated, and the control measures to be implemented to minimize or eliminate each hazard. This AHA is used to augment daily safety meetings intended to heighten safety and hazard awareness on the job. This pre-task briefing will be documented and may be combined with the daily tailgate safety meeting. AHAs are the focal point for safe conduct of work on a project. Since each task is described and evaluated workers should be better prepared to perform work safely.

The SHSS will discuss the risks and precautions associated with each task identified in the DO and in the work plan. Daily "tailgate" safety meetings are held at the start of each shift. Prior to the day's remediation activity the safety meeting discusses the potential chemical, physical, and environmental hazards and preventive safety measures. During a workday, if there are any changes or new conditions, the SHSS will insure that the AHA is updated and that workers review the amended AHA. Attendance is mandatory for all employees involved in the specific work.

If there are changes required due to changing conditions or requirements, the SHSP may be modified by using the change form attached to the SHSP and by obtaining the approval of the PjM or Project Superintendent, the Project SHSS, and the PESM.

6.0 PERSONAL PROTECTIVE EQUIPMENT

PPE for site workers will be selected and used based upon the existing and potential hazards anticipated and the requirements of 29 CFR, Part 1910.120 (8 CCR, Section 5192). Different levels of personal protection will be provided to workers at the site depending on specific work tasks performed. The selection of PPE requires an evaluation of chemical contaminants, concentrations of these chemical contaminants, and physical hazards that may be encountered.

The initial PPE and action levels for each site activity will be established for each DO based on available data and defined in the SHSP. As additional testing, monitoring, and background information become available, the SHSS may adjust the action levels and PPE accordingly. The PESM will be consulted for approval to changes in the action levels. The decision to upgrade or downgrade the level of protection allowed in the field and will be communicated as appropriate to all site personnel. The decision and justification for the change in level of protection will be recorded in the health and safety logbook.

The SHSP will comply with 29 CFR, Part 1910.132 (8 CCR, Sections 3380 through 3390), which states that all PPE for eyes, face, head, and extremities, protective clothing, respiratory protection devices, and protective shields and barriers shall be provided, used, and maintained in a sanitary and reliable condition. PPE is required wherever it is necessary by reason of hazards from processes or environment, chemical hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

Respiratory protection is of primary importance in the protection of employee health since inhalation of air contaminants is a potential major route of exposure. The FWENC respiratory protection program is administered pursuant to the requirements established by 29 CFR, Part 1910.134 (8 CCR, Section 5144). The SHSS is assigned responsibility as the Respirator Program Administrator for the project. Selection, use, and maintenance of PPE at the project shall be in accordance with EHS Procedure 5-1, Personal Protective Equipment, and EHS Procedure 5-2, Respiratory Protection. The SHSS may upgrade or downgrade the level of protection based on the hazard anticipated, evaluation of site monitoring data, and established action levels by the SHSP and with the concurrence of the PESM.

The EPA Level categories are as follows:

- ***Level A*:** Used when the greatest level of skin, eye, and respiratory protection is needed and consists of a totally encapsulated suit with supplied breathing air.
- ***Level B*:** Used when the highest level of respiratory protection is needed but a lesser level (than Level A encapsulated suit) of skin protection is required.

- ***Level C***: Used when criteria for using air-purifying respirators are met and a lesser level of skin protection is required.
- ***Level D***: Used only as a work uniform and in an area without respiratory hazards.

Level D protection is used during site reconnaissance, mobilization, geophysical survey, base line surveying, and other activities that have no potential for exposure to chemical hazards. PPE for Level D includes:

- Coveralls, cotton and/or disposable coveralls
- Boots, leather or rubber, steel toe and shank
- Rubber overboots or disposable booties (as required)
- Safety glasses or goggles
- Hard hat
- Gloves as required by task (e.g., leather work gloves)
- Hearing protection (as required)

Level C protection is used during Resource Conservation and Recovery Act (RCRA) and non-RCRA soil excavation, temporary storage, loading, backfilling and compaction, decontamination of equipment, and other activities where there is a potential for chemical exposure but where that exposure is below permissible exposure levels with the provided PPE. If air-monitoring information dictates that a higher degree of PPE is necessary, levels of protection are increased. PPE for Level C includes:

- Full facepiece APR
- National Institute for Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA)-approved air purifying respirator cartridges (approved for use with the specific types of contaminants)
- Emergency escape respirator (optional, depending on the potential for emergency conditions)
- Coveralls (inner), cotton
- Coveralls (outer), chemical-resistant, disposable (e.g., Tyvek)
- Gloves (outer), chemical-resistant (e.g., nitrile)
- Gloves (inner), cotton or nitrile
- Boots, chemical-resistant, rubber, with steel toe and shank, or Boots, leather, with steel toe and shank with chemically resistant rubber overboot
- Hard hat
- Hearing protection (optional or as required)

Level B protection is selected and implemented when it is determined through real time air monitoring and/or personnel sampling that the highest level of respiratory protection is necessary for site personnel. This level of protection is also used when the atmospheric contaminant(s) identified does not meet the selection criteria permitting the use of air purifying respirators or when contaminants are unknown. There is a possibility that this may occur for some DO specific work.

PPE for Level B includes:

- Pressure-demand, self-contained breathing apparatus (SCBA) or airline respirator (with attached 5-minute escape bottle)
- Coveralls (inner), cotton
- Coveralls (outer), chemical-resistant, disposable (e.g., Tyvek)
- Gloves (outer), chemical-resistant (e.g., nitrile)
- Gloves (inner), (e.g., nitrile)
- Boots, chemical-resistant, rubber, with steel toe and shank, or Boots, leather, with steel toe and shank with chemically resistant rubber overboot
- Hard hat
- Hearing protection (optional or as required).

Subcontractors are responsible for supplying, maintaining, their own PPE according to the manufacturers' procedures and guidelines and their own policies and procedures, which must be at least as protective as required by regulations and those procedures described in this Base-Wide Plan.

Most projects usually require the use of either Level D or Level C protection. With each level of protection there is a degree of variability or modification dependent on the specific tasks and the nature and concentration of contaminants. For example, different tasks on the same site may require gloves of different materials, length, or thickness. Variations of a level of protection will be indicated by a qualifier (e.g., "Modified Level C") and specify the modification required. Level A protection, if ever required, will require specific discussion in the SHSP.

For site work under this contract, FWENC or subcontractors will maintain protective equipment on site for use by government visitors as specified in each DO.

7.0 AIR, NOISE, AND OTHER MONITORING

The SHSS will conduct monitoring to ensure that each site worker is adequately protected. Required monitoring will be defined in the SHSP. Site monitoring and sampling may include personal air sampling, real-time air monitoring, perimeter monitoring, radiation monitoring, noise monitoring, and heat stress monitoring.

The SHSS shall have experience using the required monitoring or sampling equipment. The PESM shall ensure that each SHSS is qualified to operate all assigned instruments. The SHSS shall ensure that each piece of equipment is properly maintained and calibrated.

Personal sampling requirements will be defined in the SHSP, and will be based on potential airborne hazards and OSHA requirements. Personal sampling methods will be in accordance with NIOSH methods, OSHA instructions, or good industrial hygiene practice when established methods are not available or feasible. A laboratory accredited by the American Industrial Hygiene Association will conduct all laboratory analysis of industrial hygiene samples. Results will be compared to the ACGIH TLVs or OSHA Permissible Exposure Limits, whichever is more stringent. Results will be communicated to employees in accordance with OSHA requirements. All exposure records will be kept in accordance with 29 CFR, Part 1910.20 (8 CCR, Section 3204).

Real-time air monitoring will be used, as appropriate, to identify and quantify airborne levels of hazardous substances and safety and health hazards in order to determine the appropriate level of employee protection needed on site. Real-time monitoring may be necessary for airborne hazards such as flammable vapors, specific target compounds, organic vapors, and dust. Real-time monitoring requirements will be documented in the SHSP and based on the probability of encountering potential contaminants at each site. The PESM will establish action levels and the action required if levels should be reached or exceeded.

All instruments (both real-time and TWA) shall be calibrated according to the manufacturers' recommendations. All equipment shall be calibrated before and after use. A calibration log shall be kept to record all calibrations.

The SHSP may specify the use of colorometric tubes for direct reading of specific contaminants. The details will be discussed and action levels established.

The need for radiation monitoring will be established in the SHSP. Radiation monitoring procedures, action levels, and recordkeeping will be in accordance with 10 CFR, Parts 20 and 29 CFR, Part 1910.1096 (8 CCR, Sections 5075 through 5076).

Noise monitoring and hearing conservation requirements will be defined in the SHSP and implemented in accordance with Procedure EHS 4-4, Hearing Conservation Program, and 29 CFR, Part 1910.95 (8 CCR, Sections 5095 through 5100).

The SHSS will ensure that all data is documented in logs or logbooks including calibration, types of calibrants used, the manufacturer, model number of instruments used, the date and time of calibration and monitoring events, the area or personnel monitored, the atmospheric conditions and weather, unique site conditions, equipment operating in area, initials of individuals performing the monitoring, and any other information which affects the data or the actions taken based on the data.

8.0 SITE CONTROL

The PjM, Project Superintendent, and the SHSS will implement site control measures at each site. These measures will consist of general site control and specific work location site control. Site control measures are specified in the SHSP for each DO.

General site control measures pertain to the overall site and may include the use of security guards, perimeter fencing, sirens, posting of warning signs, and illumination. These control measures are geared toward visitors and the general public. The Project Superintendent and the SHSS implement control measures as necessary.

Location-specific control measures are designed to control contamination and worker entrance and exit from individual work areas. Prior to the commencement of any on-site work, controlled zones of activity will be established by the SHSS. This will reduce the spread of contamination to off-site areas and protect the health and safety of workers. The controlled zones will be included in one of the following categories: 1) exclusion zone—where contamination does or could occur, 2) contamination reduction zone—where decontamination will occur, and 3) support zone—clean zone outside the contamination reduction zone. Each work zone will be clearly identified and delineated by cones, rope, fences, signs, or barricades.

8.1 EXCLUSION ZONE

The exclusion zone may include all areas within the boundaries of a contaminated work area or merely the areas immediately surrounding the site of intrusive activity. Access points are provided to the exclusion zone. During activities where the possibility of airborne contaminants being carried outside the exclusion zone exists, the exclusion zone will be expanded to include areas of possible contamination. Only designated project team members and authorized government agency personnel shall be allowed in the exclusion zone. All personnel entering the exclusion zone must wear the appropriate level of protection designated for the work area. Personnel must also meet medical surveillance requirements, training requirements, and respirator fit test requirements. All personnel exiting the exclusion zone must be fully decontaminated in the contamination reduction zone.

8.2 CONTAMINATION REDUCTION ZONE

All personnel and equipment that may have been contaminated in the exclusion zone will be subject to decontamination in the contamination reduction zone. Temporary or field decontamination stations for personnel and equipment will also be located in the contamination reduction zone as needed. The contamination reduction zone is intended to be a buffer between the exclusion zone and the support zone and will be designed to prevent the transfer of contaminants from the exclusion zone to the support zone and off site. Within this zone is

usually located a Contamination Reduction Corridor (CRC). In the CRC, workers will find decontamination equipment, supplies, and stations.

8.2.1 Decontamination Procedures

Personal hygiene practices for field personnel will be described in the SHSP. At a minimum, site workers will be provided with adequate restroom and handwashing facilities and be required to wash exposed areas of the skin (i.e., hands and face) upon exiting potentially contaminated areas. Smoking, eating, or drinking will not be allowed in exclusion zone or contamination reduction zone work areas.

The SHSS is responsible for the functional activities of the decontamination facilities and shower trailer if one is required on the site. The SHSS will train site personnel in the steps used for decontamination. The SHSS will periodically inspect for compliance with decontamination procedures and correct any deficiencies.

Separate areas will be designated for equipment decontamination and personnel decontamination. These areas will be separated to minimize contamination of the personnel in the contamination reduction zone by overspray from equipment decontamination.

8.2.2 Personnel Decontamination

Personnel departing the exclusion zone are required to proceed through a decontamination line. The following decontamination procedure is an example and will be modified to meet site-specific requirements in the SHSP:

- ***Facility 1***—Segregated Equipment Drop: Drop equipment onto plastic liner or shelf.
- ***Facility 2***—Boot Cover Wash/Rinse and Removal: Wash and rinse outer boot covers with detergent and water. Remove boot covers and discard into proper container for disposal.
- ***Facility 3***—Boot Wash/Rinse, Outer Suit Wash/Rinse and Removal: Wash and rinse protective suits. Wash and rinse safety boots. Remove and discard outer suit and place into disposal containers.
- ***Facility 4***—Outer Glove Wash/Rinse and Removal: Wash and rinse outer gloves. Remove and discard into disposal container, leaving inner gloves on.
- ***Facility 5***—Respirator Removal: Decontaminate, remove, and sanitize respirator and backpack assembly. Place on the table.
- ***Facility 6***—Remove Boots and Inner Gloves: Remove boots, then inner gloves and discard inner gloves.

- ***Facility 7***—Field Wash: Wash hands and face with water. At shift's end, personnel are then required to enter the decontamination trailer and shower thoroughly (if a trailer and shower are required on the site).

In case of an emergency, gross decontamination procedures will be implemented and the person will be transported to the nearest medical facility immediately at the direction of the SHSS according to the Site Emergency Response Plan (reference Section 12.0). The medical facility will be informed that the injured person is on the way, and has not been fully decontaminated. The medical facilities will be notified of the potential chemicals present and of the exposure-prevention measures that can be used while treating the victim.

A commercial vendor may launder reusable protective clothing (cotton overalls). If the coveralls are contaminated with a hazardous waste, the vendor will be notified of the type of waste.

8.2.3 Equipment Decontamination

Heavy equipment, PPE, monitoring equipment, and sampling equipment may require decontamination. Procedures may be modified based on actual site conditions or DO requirements.

Decontamination of heavy equipment (including under carriage, chassis, and cab) will be performed using a high-pressure washer sprayer, and/or steam cleaner and appropriate biodegradable solvents. All equipment will be decontaminated on a pre-constructed decontamination pad designed to collect and store washings. The equipment will first be sprayed and scrubbed with water (and a low-sudsing detergent as required). Secondly, the equipment will be rinsed with water. If persistent contamination exists after cleaning based on visual assessment, other cleaning methods may be necessary. Air filters on equipment used in the exclusion zone will be removed and disposed with the materials used for decontamination if warranted. Depending on the contaminants, a simple scraping and brushing off of the equipment may be acceptable.

Outer PPE (such as protective suits, boot covers, and outer gloves) will be washed and rinsed with trisodium phosphate and water. These items will all be discarded at the end of the day. If they have become grossly contaminated during work operations, they will be changed as necessary during the day. Respirators will be sanitized by rinsing in a germicidal rinse followed by a clean water rinse, then air drying in a clean area.

Each person will be responsible for the gross decontamination of their own respirators at the end of each shift. A thoroughly trained SHSS will perform respirator maintenance.

Reasonable precautions will be taken to minimize monitoring equipment contamination. Decontamination will be accomplished using materials that will not damage the instrument(s). Delicate air monitoring and surveying equipment will be wiped off with alcohol or soap and water and protected from contamination when in use.

The following procedures will be used for cleaning sampling equipment used for chemical tests or sampling:

- Steam clean and/or pressure wash.
- Wash and scrub with laboratory grade detergent.
- Rinse with water.
- Rinse with other reagents according to the site work plan or quality control plan.

Decontaminated sampling equipment will be protected from contamination before use by wrapping with aluminum foil or placing in a clean container.

If decontamination pads are used, they will be constructed to facilitate containment and collection of all potentially contaminated water and decontamination fluids. The waste liquids will be transferred to appropriate drums, holding facilities, or waste systems. All PPE wastes generated will be bagged, labeled, and stored for off-site disposal or incorporation into other waste materials. FWENC will store waste in a manner and in an area designated by the facility. In no case will storage exceed 90 days from the start date of accumulation of the waste. Some facilities require that storage not exceed a period of time less than 90 days (e.g., 45 days). Each project manager will ensure that the specific requirements of the facility are followed.

8.3 SUPPORT ZONE

The support zone will be arranged considering accessibility, utility availability, wind direction, and line-of-sight to work. Included in this area will be the main office trailer, administration area, vehicle parking, security, toilets, water, electricity, and a break/lunch area. The support zone will be outside the contamination reduction zone and will be the area where support workers will provide assistance to workers inside the exclusion zone and contamination reduction zone. The support zone normally will begin at the exit from the decontamination line. Only clean or appropriately containerized equipment, material or personnel can enter the support zone from the contamination reduction zone.

9.0 MEDICAL SURVEILLANCE PROCEDURES

FWENC requires that site workers participate in a medical surveillance program that meets the requirements of 29 CFR, Part 1910.120(f) (8 CCR, Section 5192). The medical surveillance program, managed by the FWENC Medical Consultant, shall be instituted for the following employees:

- All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year.
- All employees who wear a respirator for 30 days or more a year or as required by 29 CFR, Part 1910.134 (8 CCR, Section 5144).
- All employees who are injured, become ill, or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation.

All workers who must enter exclusion zones or who meet the criteria listed above must provide the SHSS with a written opinion from a licensed physician attesting to the employee's fitness for duty at a hazardous waste site. A physician's written opinion of the employee's ability to wear a respirator will also be required when there is reasonable possibility that a respirator may be required for site work. The physician's written opinion must be dated within the previous 12-month period, or an alternate time period as determined by the physician, for continued work. Additional medical surveillance requirements specific to the site or site contaminants may be required and will be defined in the SHSP. The PESM will implement additional medical surveillance requirements when specified in applicable OSHA standards (e.g., the lead standard), when recommended by consulting physicians, or when considered prudent to monitor potential employee exposure.

The SHSS will maintain a file for each person on site. This file will have a copy of the physician's statement of employee's fitness for duty, the employee's ability to wear a respirator and if there are any work restrictions. The SHSS will ensure that the employee and project supervisors comply with medical work restrictions, if any. The SHSS will also ask each employee to complete a form to indicate any known allergies, prescription medications, and any other medical information that will allow the SHSS to respond to any medical emergency in an appropriate manner. Personnel will notify the SHSS regarding any medications, including over-the-counter, they are using on each day of work. The SHSS in consultation with the PESM and/or a medical consultant will determine if any medications may have an effect on a worker that would impair the ability of the worker to perform work safely.

10.0 SAFETY CONSIDERATIONS

All workers must comply with the FWENC Project Rules Handbook, Volume I and Volume II. The following are some of these rules:

The following practices will be expressly forbidden during field operations:

- Entrance onto the site or into designated restricted area(s) without formal authorization, compliance with medical monitoring and training requirements, and/or compliance with the SHSP.
- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material in any area designated as contaminated.
- Approach or entry into areas or spaces where toxic or explosive concentrations of gases, vapors, or dusts exist without prior approval of the SHSS and/or utilization of proper protective equipment.
- Facial hair, which interferes with the satisfactory fit of the mask-to-face seal of respirators, is prohibited for personnel required to wear respiratory protection equipment.
- The use/wearing of personal stereo headphones. Their use may preclude reception of audible warning signals and/or hazard communication.

The following practices are required:

- Personnel and equipment in the contaminated area will be minimized, consistent with effective site operations.
- Equipment shall be bonded and grounded, spark-proof and explosion resistant, as appropriate to minimize or prevent the ignition or flammable materials in the work zone.
- A minimum of two employees, in constant communication (either visual or voice) with each other, will be required to perform any work within the exclusion zone.

10.1 VEHICLE AND EQUIPMENT OPERATIONS

Dust suppressants will be used to the extent possible for controlling airborne dust generation to the extent possible. In addition, vehicular traffic speed on non-paved roads will be restricted to 15 miles per hour. Motor vehicles and material handling equipment assigned to this site shall conform to the requirements of 29 CFR, Parts 1926.601, and 1926.602 (8 CCR, Sections 1590 through 1596). Crews utilizing personnel transport vehicles to and from the work site shall use the vehicle's safety belts. Drivers of vehicles shall be responsible for passenger utilization of the safety belts. Personnel are not allowed to ride in the bed of pickup trucks unless there is an

approved restraint system installed and used. The Project Superintendent is responsible for maintaining a clean job site free from hazards and for providing safe access and egress from the site. Traffic cones and/or high visibility barrier tape will be utilized, where appropriate, for traffic control into/out of hazardous or restricted. Personnel will wear reflective, orange safety vests whenever working in and around vehicles and on all roads.

10.2 MISCELLANEOUS SAFETY CONSIDERATIONS

The following is a list of precautions to minimize the possibility of injury-related accidents from occurring during field operations.

10.2.1 General Information

- Be your brother's keeper. Consider what you do in terms of the hazard it may create for others.
- Ask the SHSS if you do not know how or are in doubts as to the safe way of doing your job.
- No running at any time, except in extreme emergencies.
- Throwing of any object at personnel or equipment is prohibited.
- Minimum requirements on construction sites and in shop are long pants, a shirt with the shoulders covered, and good work shoes. Torn, ragged, or frayed items should not be worn because they can catch on obstructions or machine parts, or otherwise cause you to trip or fall.
- Know where emergency exits are, and how to get to them. Do not block them with material or equipment.

10.2.2 Housekeeping

- Clean work areas and storage areas encourage better incident prevention, and make the work easier to do.
- Dispose of trash and scrap in proper containers. This includes lunch papers, soft drink cans, banding straps, wood, rags, paper cups, etc.
- Keep tools, material, and equipment stored in an orderly manner, and in their proper places. This prevents unnecessary damage, and helps you to find them when you need them.
- Keep stored material, scrap, and other tripping hazards out of roads and walkways and away from emergency equipment. If it's in a walkway and it's not moving, it does not belong there.
- Cords, cables, and hoses crossing roads or walkways are to be covered to prevent tripping or damage, or are to be supported overhead, at least 7 feet above walkways, 14 feet above roads.

10.2.3 Fire Prevention

- Control "open flame" tools and equipment.
- Protect nearby combustible materials from heat, flames, sparks, and slag by moving or covering them.
- Keep flammables in closed containers. Use safety cans.
- All site workers will have training on the use of portable fire extinguishers.

10.2.4 Personal Protective Equipment

- Head
  - Hard hats are required at all times on construction sites. They are also required at other locations where overhead hazards exist. Bump hats are not permitted.
- Eyes and Face
  - Spectacle type safety glasses are required when hitting steel on steel, grinding, drilling, sawing, vibrating concrete, etc., or when working near someone else who is creating flying particles.
- Fall Protection
  - Safety harnesses and a fall restraint system, such as lanyards, attached to an approved support point are required when working from any support or surface where possibility of falls exist, or where guardrails are not installed.
  - Tie off to a solid, approved support. Tie off as short as possible allowing no more than a 36 inches for fall.

10.2.5 Hand Tools

- Every tool is designed for a specific use. Do not misuse. Inspect daily for defects.
- Keep tools in proper working condition - clean, sharp, oiled, dressed, and adjusted.
- Mushroomed chisels, drills, etc. cause dangerous flying objects. Keep them dressed.
- Never hit hardened steel with hardened steel, such as hitting a hatchet with a hammer.
- Do not use "cheaters" to increase capacity. Get a bigger sized tool.
- Carry tools in proper sheath, belt bag, or box. Points down.
- Know how to shut it off before turning it on. No locked "on" switches on hand held power tools.
- Eye protection is required for protection from flying particles.
- Power activated tools shall be inspected daily before use for proper operation of their safety devices. You must be authorized by your foreman to operate this equipment.

- Power supply must be properly attached to tool, and to source. Electric tools must be grounded (or "double insulated").
- Check area for other people before starting tool. Warn people nearby.
- Be prepared for jamming of rotating tools. Have good footing, good balance, and watch out for nearby obstructions. Check yourself for loose clothing.
- Shut off and bleed down air hose before disconnecting air tools. Never point an air hose toward another person or yourself.
- Unplug electric cords.
- Store in safe place when not in use. Protect from weather, dirt, and water.
- Power tools must be GFCI-protected.

10.2.6 Material Hoists

- Not to be used for hoisting people.
- Secure material to prevent it from shifting.
- Use tag lines.

10.2.7 Crane

- General
  - Know the crane capacity and the weight to be lifted before lifting.
  - Be sure air space and walkway are clear before moving bridge or trolley.
- Mobile
  - Solid footing. Use outriggers with rubber-tired cranes.
  - Barricade area of swing of counterweight.
  - Keep boom, lines, and loads at least 15 feet away from electric power lines. Minimum distance increases above 50,000 volts. Power lines must be de-energized to work closer than the minimum distance.
  - The operator shall avoid swinging loads over workmen's heads. Only one signalman at any one time.
  - Equipment shall be inspected before each use and all deficiencies corrected before further use.

10.2.8 Forklifts

- You must be authorized by your supervisor before operating this equipment.
- Keep forks spread as far apart as possible. Check stability of load before moving it.
- Look in direction of travel before moving and during moving. Watch out for overhead hazards.

- Back downgrades when carrying a load.
- No riders, unless a passenger seat is provided.
- Forks are not to be used as an elevator or as a work platform.
- Lower forks all the way down before leaving the equipment.
- Do not drive along the edge of raised docks, platforms, or ramps.

10.2.9 Mechanical Material Handling

- Know the weight of the load to be moved.
- Know the capacity of the equipment to be used to move the load.
- Use tag lines to control the load. Keep tag line free of your body, and free of obstructions during movement of the load.

10.2.10 Manual Material Handling

- Leg muscles are stronger than back muscles. Lift with your legs not your back. Bend knees, keep back straight, tighten abdomen, using legs, make a smooth controlled lift.
- Plan before you lift - consider weight, size, shape, path of travel, and set down location. Get help if necessary.
- Protect your hands and fingers from rough edges, sharp corners, metal straps. Keep hands and fingers out of pinch points between the load and other objects.

10.2.11 Overhead Work

- No one is to be unprotected under overhead work.
- Erect barricades, signs, or other devices to warn people of the work overhead. Respect the barricades or signs put up by others.
- Covered walkways are needed where people must pass under overhead work.

10.2.12 Portable Ladders

- General - All Portable Ladders
  - Inspect for defects. When defects are found, the ladder is to be withdrawn immediately from use. Set ladder feet on solid foundation.
  - Only one person is allowed on a ladder at one time.
  - Use ladders for climbing -not for material skids, walkways, or workbenches.
  - Face the ladder while climbing up or down, and while working from it. Use safety harness or fall protection when falls are possible.

- Both hands are needed for climbing. Use a hand line for material.
- No metal ladders are to be used.
- Store safely to prevent damage from vehicles, materials, etc.

- Straight and Extension Ladders
  - Correct slope of ladder is 1:4.
  - Secure ladder from slipping. Non-slip feet on bottom, and tie off with rope at top.
  - Extend ladder 3 feet above top landing where ladder is to be used for access to the landing.
  - Do not take extension ladders apart to get two ladders.
  - Keep hands off rungs while extending or lowering extension section. Be sure latches are in place before climbing.
- Stepladders
  - Open fully. Lock spreaders. Do not use as a straight ladder.
  - Do not stand or step on top platform.
  - Keep loose tools off steps and top platform.
  - Tie off stepladder if longer than 12 feet.

10.2.13 Compressed Gas Cylinders

- Always keep cylinders upright. Tie off vertically with strong wire, rope or chain, or keep chained in cylinder cart.
- Do not drop or roll the cylinders.
- Use a rack for lifting cylinders to and from upper elevations. Never lift a cylinder by the control valve or a valve cover.
- Always replace valve covers when gauges are removed. Valve covers must be placed on all cylinders before they are moved.
- Store oxygen cylinders 20 feet away from other cylinders, or separate by a solid approved divider. Do not store any cylinders inside a building.
- Keep oil and grease away from oxygen valves.
- Cylinders are to be kept at a safe distance or shielded from welding and cutting operations. They are not to be placed where they can contact an electric circuit.
- Acetylene cylinders must always be stored upright.
- Use only regulators specifically approved for the type of gas in the cylinder (read the front of the gauges for this information). Never modify regulators or use adapters.

10.2.14 Welding and Burning

- Electric
  - Keep leads out of walkways.
  - Shield arcs to protect others from direct arc rays.
  - Remove rod from electrode holder before laying it down. Put rod butts in a container, not on the floor.
  - Proper grounding from work to machine is a must.
  - Turn off machine at end of shift.
- Gas
  - Keep hoses out of walkways.
  - Check area-sides and below for possible fire hazards.
  - Remove gauges at end of shift and replace cap on cylinder. Toolboxes used to store hose and gauges are to be ventilated.
  - Use soapy water when checking for leaks.
  - Before using fuel gas cylinders:
    - Always crack cylinder valve before connecting gauges to clean dirt.
    - Open cylinder valve slowly and leave wrench in position while cylinder is in use.
    - A regulator shall always be used on fuel gas cylinders.
    - The cylinder valve shall always be closed before removing regulator.
    - When fuel gas cylinders connected to gauges have a leak it will be repaired or removed from service and tray way from the work area.

10.2.15 Electricity

- No "live electrical" work is allowed without the authorization from your supervisor.
- Temporary lighting circuits require guards over the bulbs. Metal guards must be grounded.
- Keep extension cords out of water, and at least 7 feet above walkways.
- Disconnect switches must be labeled to show the equipment or service they feed. Check before operating.
- Always shut down electrical equipment before servicing, repairing, or investigating questionable function.

10.2.16 Decontamination

- Personnel
  - Do not walk through areas of obvious or known contamination.
  - Do not handle or touch contaminated materials directly.

- Make sure all personal protective equipment has no cuts or tears prior to donning.
- Fasten all closures on suits, covering with tape, if necessary.
- Particular care should be taken to protect any skin injuries.
- Do not carry cigarettes, gum, etc., into contaminated areas.

- Heavy Equipment
  - Take care to limit the amount of contamination that comes in contact with heavy equipment.
  - If contaminated tools are to be placed on non-contaminated equipment for transport to the decontamination pad, use plastic to keep the equipment clean.

10.2.17 Illumination

All work on site when performed outdoors must be performed during daylight hours only (1/2 hour after sunrise to ½ hour before sunset). If work must be performed during hours of darkness or inside buildings, the project will insure that additional lighting is provided to meet the requirements of 29 CFR, Part 1910.120 (8 CCR, Section 5192) and the EM 385-1-1, Section 7.

10.3 ERGONOMIC CONSIDERATIONS

Routine activities at the project may involve tasks that, by their nature, may subject personnel to unexpected ergonomic stresses. Examples of ergonomic stresses include:

- Muscular sprains and strains.
- Musculo-skeletal trauma from impacts or vibrations.
- Fatigue due to extended work schedules.

Caution and workload awareness should be exercised by all site personnel during project activities. Tasks which involve manual manipulation of sampling devices, chemical storage drums, shoveling, and/or prolonged exposure to vibrating mechanical equipment should be monitored by the individuals involved with them to preclude the adverse effects of ergonomic stress.

11.0 DISPOSAL PROCEDURES

The Waste Management Plan describes the handling of wastes from the project site and the management of all decontamination liquids and disposable clothing and supplies that have come in contact with contaminated materials. All disposable PPE will be treated as contaminated waste and disposed of properly. Contaminated clothing will be placed in a drum lined with a polyethylene bag. Wastewater generated on site will be stored until ready for testing and disposal. Temporary waste storage areas will be set up by each exclusion zone during the work day. This waste will then be moved to a main storage area until ready for disposal, if required by environmental personnel. All waste containers will be properly labeled and stored consistent with regulatory requirements. Contents of the containers will be sampled by trained sample technicians and sent to a laboratory to determine regulatory permitted disposal methods. Decontamination water will be contained and captured utilizing submersible pumps and/or vacuum units. FWENC will arrange for the proper disposal of all decontamination fluids, contaminated debris, soil and other waste per contract requirements. In no case will accumulation be allowed to exceed 90 days from the date that the accumulation started. FWENC has policies and procedures that require that all disposal is managed by firms that have been pre-approved by an internal review process and by the DoN.

12.0 EMERGENCY RESPONSE PLAN

There are numerous emergency services nearby in the civilian community. This plan describes response activities as they apply to Alameda Point. Site-specific response procedures, if any different, will be discussed in the SHSP. Certain information will always be repeated in every SHSP to ensure that the information is readily available and "on top." For example, every SHSP will have a table that lists all the emergency contact numbers and the map to the nearest medical facilities.

12.1 RESPONSIBILITIES

The Project Superintendent or PjM, if there is no Project Superintendent, is the primary emergency coordinator for the project. In the absence of either or both the Project Superintendent and the PjM, the SHSS is the emergency coordinator. The emergency coordinator will take charge and determine, direct and delegate personnel and resources to manage the emergency. Key responsibilities of the emergency coordinator are to:

- Initiate evacuation, if needed.
- Initiate emergency response agency notification.
- Insure that response activities are commensurate with the level of the emergency and as discussed in this plan are implemented.
- Interface and coordinate with outside agencies responding to on-site emergencies.

12.2 COMMUNICATIONS

Personnel shall maintain verbal communication with each other. The following communications systems will be available during site activities:

- Cellular telephone or access to a land phone for emergency purposes.
- Hand held radios, as needed.
- Compressed air horn (signals emergency evacuation only) at the site.
- Hand signals, if used, will be diagrammed and posted.
- Posted location of evacuation assembly area(s).
- Posted route to the nearest hospital for the project site.
- Posted emergency phone numbers.

12.3 ACCIDENT/INCIDENT REPORT

After the emergency event is over or during the course of the emergency when possible, the SHSS will notify the PESM by telephone. Should an accident or incident occur, the Project Superintendent or PjM and the SHSS will immediately investigate the cause, notify the PESM, and promptly complete the following:

- ***FWENC Incident Report Form.*** Details of the incident shall be documented within 24 hours and copies of the report forwarded to the DoN RPM and the PESM. Reports of serious incidents will also be faxed to the PM by the Project Superintendent or PjM.
- ***Incident Investigation Report.*** The Incident Investigation Report will have the same distribution as the Incident Report Form within 3 days of the incident.

Any recommended additional hazard control measures must be discussed with the Project Superintendent, the SHSS, and the PESM and meet their approval, prior to implementation. Any occupational injuries and illnesses will be recorded, if applicable, on an OSHA Form No. 200. The SHSS shall report immediately by telephone or telegraph to the nearest District Office of the Division of Occupational Safety and Health (Cal-OSHA) any serious injury or illness, or death, of an employee occurring in a place of employment or in connection with any employment. Immediately means as soon as practically possible but not longer than 8 hours. Records of all site accidents and first aid treatments will be maintained by the SHSS.

12.4 PRE-EMERGENCY PLANNING

Prior to performing any work the Project Superintendent or PjM and the SHSS will verify all emergency action plans by insuring that planned support facilities are available and that emergency contact numbers are valid. As work proceeds the SHSS will continue to insure that plans specified in this section can be implemented at all times. Furthermore, the SHSS will constantly insure that plans are modified as necessary to accommodate changes. The SHSS will coordinate all changes with the PESM. Upon arrival at the site, the Project Superintendent will ensure that all personnel know the system for communication of emergency situations and how to use a radio or nearby phone to summon emergency assistance. A vehicle must be available to transport personnel to safe locations or to hospitals. All personnel on this project will know how to use a portable fire extinguisher. All personnel will know the location of all emergency equipment and supplies.

12.5 EMERGENCY MEDICAL TREATMENT

The following procedures should be observed if an accident with injury occurs:

12.5.1 First Aid

Only qualified personnel shall provide first aid and stabilize an individual needing assistance. Life support techniques such as CPR and treatment of life threatening problems such as airway obstruction and shock will be given top priority. At least two persons certified in First Aid techniques and CPR will be on each work site at all times; FWENC EHS Procedure 4-1, Bloodborne Pathogens, will be followed when first aid/CPR are administered. The SHSS will be current in First Aid and CPR. Professional medical assistance shall be obtained at the earliest possible opportunity. The nearest hospital to Alameda Point is shown on a map that is part of every SHSP. A general map to the nearest medical facility is attached to this plan (Figure 2).

12.5.2 Minor Injury

- Contact Task Foreman or "buddy."
- Have qualified first aid personnel treat injury.
- Record injury and include name of injured person, nature of injury, and treatment given.

12.5.3 Medical Emergency

In the event of a medical emergency when actual or suspected serious injury occurs, the following procedures shall be implemented:

- Survey scene and evaluate whether the area is safe for entry.
- Remove the exposed or injured person(s) from immediate danger.
- Render first aid if necessary. Decontaminate affected personnel after critical first aid is given.
- Obtain paramedic services or ambulance transport to local hospital. This procedure shall be followed even if there is no visible injury.
- Call 911 from phones on Alameda Point. If cell phones are used, 911 will contact the California Highway Patrol who will connect the call to the nearest responding agency.
- Identify location by number of nearest building, request medical assistance, provide name and telephone number.
- Request assistance from emergency medical service and/or additional assistance.
- Other personnel in the work area shall be evacuated to a safe distance until the Project Superintendent determines that it is safe for work to resume. If there is any doubt regarding the condition of the area, work shall not commence until all hazard control issues are resolved.
- Notify Navy Technical Representative (NTR) of incident and fill out accident reporting forms and associated documents.

12.5.4 Fatal Injury

If a fatal injury occurs, the following additional steps will be followed:

- Notify the Project Superintendent immediately.
- Notify PESM who will initiate contact with Cal-OSHA and other appropriate agencies.
- Notify NTR.
- All work activities on the project must be stopped on the project for 24 hours.
- Assist Cal-OSHA as directed.

12.6 DECONTAMINATION DURING MEDICAL EMERGENCIES

Any personnel requiring emergency medical attention shall be evacuated immediately from exclusion and contamination-reduction zones. Personnel shall not enter the area to attempt a rescue if their own lives would be threatened. The decision whether or not to decontaminate a victim prior to evacuation is based on the type and severity of the illness or injury and the nature of the contaminant.

For some emergency victims, immediate decontamination may be an essential part of life saving first aid. For others, decontamination may aggravate the injury or delay life saving treatment. If decontamination does not interfere with essential treatment, it should be performed.

If decontamination can be performed:

- Wash external clothing and cut it away.
- Wrap victim in clean blanket or towel if necessary.

If decontamination cannot be performed:

- Wrap the victim in blankets or plastic to reduce contamination of other personnel.
- Alert emergency and off-site medical personnel to potential contamination; instruct them about specific decontamination procedures.
- Send along site personnel familiar with the incident.

12.7 EMERGENCY SITE EVACUATION PROCEDURES

In the event of an emergency situation such as fire or explosion, the SHSS or a supervisor will activate an air horn for approximately 15 seconds indicating the initiation of evacuation procedures. All personnel in both the restricted and non-restricted areas will evacuate and assemble near the support zone or other safe area as identified by the SHSS. Prior to start of work at any project site the SHSS will identify and mark the location of an evacuation assembly area for that project site. The location should be upwind of the site as determined by the wind

direction. For efficient and safe site evacuation and assessment of the emergency situation, the Project Superintendent or SHSS will have authority to initiate proper action if outside services are required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The SHSS must ensure that access for emergency equipment is provided and that all equipment that may cause combustion has been shut down once the alarm has been sounded. As soon as possible, and while the safety of all personnel is confirmed emergency agency notification will commence. The SHSS will brief site personnel each day as to the location of the evacuation assembly area.

Prior to the start of each project work site the SHSS will establish safe egress routes from the site to the evacuation assembly area. The SHSS will prepare a drawing or map that diagrams these safe egress routes. The SHSS will use this same map to diagram egress from the evacuation assembly area to the facility gate to be used as an exit. From this point, the map showing the route to the nearest clinic and the nearest hospital will be used if medical services are required.

12.8 FIRE PREVENTION AND PROTECTION

Fire prevention and protection measures require pre-planning. At least one 20-pound dry chemical ABC fire extinguisher will be located at each project site. A mounted fire extinguisher is required in every vehicle including heavy equipment. Employees will follow safe work practices to include proper storage of flammable and combustible liquids. Smoking is permitted only in those areas designated specifically by the project manager, Project Superintendent or SHSS. Personnel will follow hot work procedures to insure that work is performed in a safe environment. In the event of a fire or explosion, summon the Fire Department immediately, take a head count and implement evacuation procedures.

12.9 SPILL CONTROL AND RESPONSE

All spills, leaks, and fires involving oil or hazardous substances at Alameda Point must be reported to the to the RPM and the PESM. The person reporting the leak, spill, etc. is required to provide the following information:

- His/her name
- Location of spill and facility number, if known
- Number of injured personnel and nature of injuries, if known
- Substance spilled
- Amount spilled (estimate)
- Extent of spill
- Rate that substance is currently being released (estimate)
- Time spill occurred (estimate)

- Any other pertinent information

The RPM in coordination with the PjM will manage notifications to regulatory agencies. In addition, all spills will be reported to the FWENC Regional Environmental Safety and Quality (ESQ) Manager. Project personnel will not report spills directly to any agency unless specifically requested by the RPM or Contracting Officer.

A minor spill would involve no immediate threat to human health or the environment, minimal property damage, and does not exceed the reportable quantity (RQ) for that material. In the event of a minor spill, the appropriate response action is for the responsible person to notify the RPM and the PjM and supply the responders with as much information as possible. In the case of a spill of contaminated or hazardous materials, the following procedures shall be followed:

- Notify the Project Superintendent
- Identify protective clothing or equipment required to respond
- Contain the spill
- Neutralize and/or solidify any product
- Transfer material into 55-gallon drums
- Document incident

12.9.1 Release Prevention and Minimization Measures

In addition to training, the following procedures will be implemented to prevent and minimize releases of hazardous materials:

- Do not conduct hazardous materials operation when the weather could cause significant risk to surrounding area if a spill should occur.
- Transfer all materials in or over a bermed or "protected" area. A protected area is one that is covered with an impermeable material, such as polyethylene.
- Dike temporary storage tanks containing hazardous wastes or potentially hazardous wastes to contain potential releases.
- Maintain a supply of basic spill response materials and protective equipment on site to include:
  - Absorbent sheets, pillows, booms or absorbent material
  - Open top 55-gallon drums or other containers with lids
  - Booms, shovels, and other tools, such as squeegees

12.10 SIGNIFICANT VAPOR RELEASE

Any project activity which releases significant amounts of vapor must be reported immediately as described in the spill release procedure. Every attempt to mitigate the release must be taken if

it can be safely performed. For example, during excavations vapor releases may be controlled by simply replacing cover on the excavation. Down-wind evacuation procedures may be required. These will be initiated through coordination with facility emergency coordinators.

12.11 EARTHQUAKE RESPONSE

If an earthquake should occur during the course of site activities, take the following steps:

- Stop working. Remain calm and do not panic.
- Do not use or do anything that might be a source of ignition (i.e., smoking, cutting, or welding).
- Avoid power lines, power poles, and windows.
- If in a vehicle, stay in the vehicle until the earthquake is over.
- If in a building, take cover under a heavy piece of furniture.

After the earthquake is over:

- Prepare for after shocks. Stay out of severely damaged buildings.
- Meet for a head count at a location designated by the Project Superintendent.
- Check for injuries. Do not move seriously injured personnel unless remaining where they are would create danger of further injury.
- Check vehicles, equipment, and buildings for any obvious damage.
- Check utility lines for damage. Switch off power, water and gas until a utility official has inspected the buildings and operational area and determined it is safe.
- If driving, watch carefully for hazards created by the earthquake (i.e., undermined roads, weak bridges, or overpasses, etc.).

12.12 EMERGENCY EQUIPMENT

The following emergency equipment will be brought onto the site or will be stationed near each work area:

- Fire extinguisher, minimum one 20-pound dry chemical ABC type in the CRC at the edge of exclusion zone.
- Industrial first aid kit, in the CRC, at the edge of the support zone.
- Portable eye wash, capable of supplying 15 minutes of water and protected from direct sunlight in the support area, at the edge of the support zone.
- Air horn at the support area, at the edge of the support zone.
- Spill control material consisting of either absorbent pillows or absorbent material and shovels, in the support zone by the CRC entrance.

The following equipment will be available at the support trailer for use in an emergency situation:

- Industrial first aid kit
- Blanket

Each SHSP may specify additional emergency equipment consistent with the hazards associated with the DO. For example, some projects may require that SCBAs be available for work on projects where exposure to contaminants may require their use.

12.13 POSTINGS

Emergency contact names and phone numbers will be posted at every project site. A map showing egress routes, evacuation assembly areas, and the route to the clinic and the hospital will also be posted. At some remote locations, posting may not be practical. In this case, the contact names, phone numbers and maps will be placed on the dashboard of every vehicle. These postings and maps are prepared for each SHSP.

13.0 TRAINING

In accordance with FWENC corporate policy and pursuant to 29 CFR, Part 1910.120 (8 CCR, Section 5192), hazardous waste site workers shall, at the time of job assignment, have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations unless excepted by the above reference. As a minimum, the training shall have consisted of instruction in the topics outlined in the above reference. Personnel who have not met the requirements for initial training shall not be allowed to work in any site activities that may expose them to chemical or physical hazards.

An employee's prior experience and/or training for equivalency may be considered to meet the training described above. The PESM will make the determination if previous experience and/or training meet the initial training requirements.

In addition to the required initial training, each employee shall have received 3 days of directly supervised on-the-job training at a hazardous waste site. This training shall have addressed the duties the employees are expected to perform and be properly documented. The FWENC Project Superintendent has the responsibility for ensuring that personnel assigned to field sites comply with these requirements. The Project Superintendent will provide the Navy Contracting Officer or designee with written certification of completion of the required training and maintain copies of required training records at the work site.

13.1 MANAGER/SUPERVISOR TRAINING

In accordance with 29 CFR, Part 1910.120 (8 CCR, Section 5192), on-site managers and supervisors directly responsible for, or who supervise employees engaged in hazardous waste operations, shall receive training as required above and at least 8 additional hours of specialized training on managing such operations by the time of job assignment.

13.2 ANNUAL 8-HOUR REFRESHER TRAINING

Annual 8-hour refresher training will be required of all hazardous waste site field personnel to maintain their qualifications for fieldwork. The following topics will be reviewed: toxicology, respiratory protection—including air purifying devices and SCBA—medical surveillance, decontamination procedures, and personal protective clothing. In addition, topics deemed necessary by the SHSS or PESM may be added to the above list.

13.3 SITE-SPECIFIC TRAINING

Prior to commencement of field activities, the SHSS will provide site-specific training to all personnel assigned to the site; this training will specifically address the activities, procedures, monitoring, and equipment for the site operations. Training will include site and facility layout, hazards, and emergency services at the site, hazard communication, and will highlight all provisions contained within the SHSP. This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and health for their particular activity. Additional training, if required for completion of field tasks during the site work, will be identified and provided for personnel as the work progresses.

13.4 ON-SITE SAFETY BRIEFINGS

Project personnel and visitors will be given daily on-site health and safety briefings by the SHSS, or designee, to assist site personnel in safely conducting their work activities. This training will be conducted prior to the start of new work activities using AHAs. The briefings will include information on new operations to be conducted, changes in work practices, or changes in the site's environmental conditions. The briefings will also provide a forum to facilitate conformance with safety requirements, and identify performance deficiencies related to safety during daily activities or as a result of safety inspections.

13.5 FIRST AID AND CPR

The SHSS will identify those individuals requiring first aid and CPR training. At a minimum, the SHSS will have received first aid and CPR training. At least two persons trained and current in certification of first and aid and CPR will be present at every work site. The training will be consistent with the requirements of the American Red Cross Association.

14.0 LOGS, REPORTS, AND RECORDKEEPING

The following is a summary of required health and safety logs, reports, and recordkeeping for this contract.

14.1 SITE HEALTH AND SAFETY PLAN CHANGE APPROVAL FORM

A Site Health and Safety Plan Change Approval Form is to be completed for all changes to the SHSP. This form requires the signatures of the PjM or Project Superintendent, the SHSS, and the PESM. The PESM sends a copy of this form to the DoN CIH within five workdays for review. Substantial changes to the SHSP may require a Field Change Request according to the Quality Control (QC) Plan in order to initiate a significant change to the SHSP. PESM approval of each Field Change Request (FCR) is required. Copies of the FCR affecting the SHSP are also sent to the DoN CIH.

14.2 MEDICAL AND TRAINING RECORDS

Full medical and training records are normally kept by the employer. Proof of the most recent training and medical qualification must be provided to the SHSS by the employee. The SHSS will keep a file containing appropriate training and medical qualifications for site workers. Medical records will be maintained in accordance with 29 CFR, Part 1910.20 (8 CCR, Section 3204). The examining physician retains custody of the complete medical record. Employee records have only the physician statement of medical qualification for duty and the employee's fitness to wear a respirator.

14.3 ON-SITE LOG

A log of personnel onsite each day (including job title, level of protection, and work location) will be kept by the SHSS or designee. Originals will be kept in the DO project file.

14.4 EXPOSURE RECORDS

Any personal monitoring results, laboratory reports, calculations, and air sampling data sheets are part of an employee exposure record. These records will be kept in accordance with 29 CFR, Part 1910.20 (8 CCR, Section 3204). For FWENC employees, the originals will be sent to the records coordinator. For subcontractor employees, the originals will be sent to the subcontractor employer and a copy kept in the DO project file.

14.5 ACCIDENT/INCIDENT REPORTS

A FWENC accident/incident report must be completed following any event involving emergency first aid, lost time, or property damage. The originals will be sent to the FWENC records coordinator for maintenance and distribution by FWENC. Copies will be distributed to the

PESM, Project Superintendent, subcontractor employees, if appropriate, and the Navy Contracting Officer. A copy of the completed forms will be kept in the DO project file.

14.6 OSHA FORM 200

An OSHA Form 200 (Log of Occupational Injuries and Illnesses) will be kept at the project site. All recordable injuries or illnesses will be recorded on this form. At the end of the project, the original will be sent to the FWENC records coordinator for maintenance. Subcontractor employers must also meet the requirements of maintaining an OSHA 200 form. The FWENC accident/incident report meets the requirements of the OSHA Form 101 (Supplemental Record) and must be maintained with the OSHA Form 200 for all recordable injuries or illnesses.

14.7 HEALTH AND SAFETY FIELD LOG BOOKS

The SHSS will complete and maintain the daily log book at the site. Log books will be used to document important events as they occur. Some general procedures will pertain to the use of all log books. The following information will be recorded on each page of all log books:

- Initials of persons making entry
- Date
- Time of each entry (military time)
- Location

The log will be signed at the end of each day or work shift. All entries will be made in black ink. No pages will be removed from the log book and each page will be numbered. Any corrections will be made with a single line through the entry, and initialed.

The log book will be used to record daily site conditions and activities within the exclusion zones. The log book will contain the following items:

- Names and job titles of all personnel in the work group
- Level of protection
- Health and safety monitoring equipment used
- Weather conditions
- Work/rest schedule (if appropriate)
- A description of the activities as they are occurring
- Any pertinent health and safety observations
- Sample number (if appropriate)

Copies of the log books will be submitted to the Project Superintendent as necessary. The original log books will become part of the exposure records file and will be maintained by the FWENC records coordinator.

14.8 MATERIAL SAFETY DATA SHEETS

MSDS will be obtained and kept on file at the project site for each hazardous chemical brought to, used, or stored at the site. An MSDS for each contaminant will also be maintained. The MSDS will be kept on file by the SHSS at the project site.

14.9 CLOSEOUT SAFETY REPORT

A final safety report will be provided to the PESM summarizing the safety performance achieved during the site work. Specific elements of the report will include the following:

- A description of significant events, exposures, accidents, illnesses, and actions taken to prevent their occurrence.
- A summary of monitoring results including air, noise, radiation, and heat stress samples.
- A description of any state or federal inspections involving the health and safety of site workers.

15.0 FIELD PERSONNEL REVIEW

All personnel are required to be trained in this Base-Wide Plan and the SHSP. Upon completion of this training and review, all project personnel will acknowledge this training by signing a SHSP review form.

16.0 REFERENCES

Note:

Specific references unique to a project will either be listed as an attachment to the SHSP or they will be incorporated as a separate section to the SHSP. For example, a specific procedure for personal air sampling may be included as a reference within the SHSP.

FIGURES

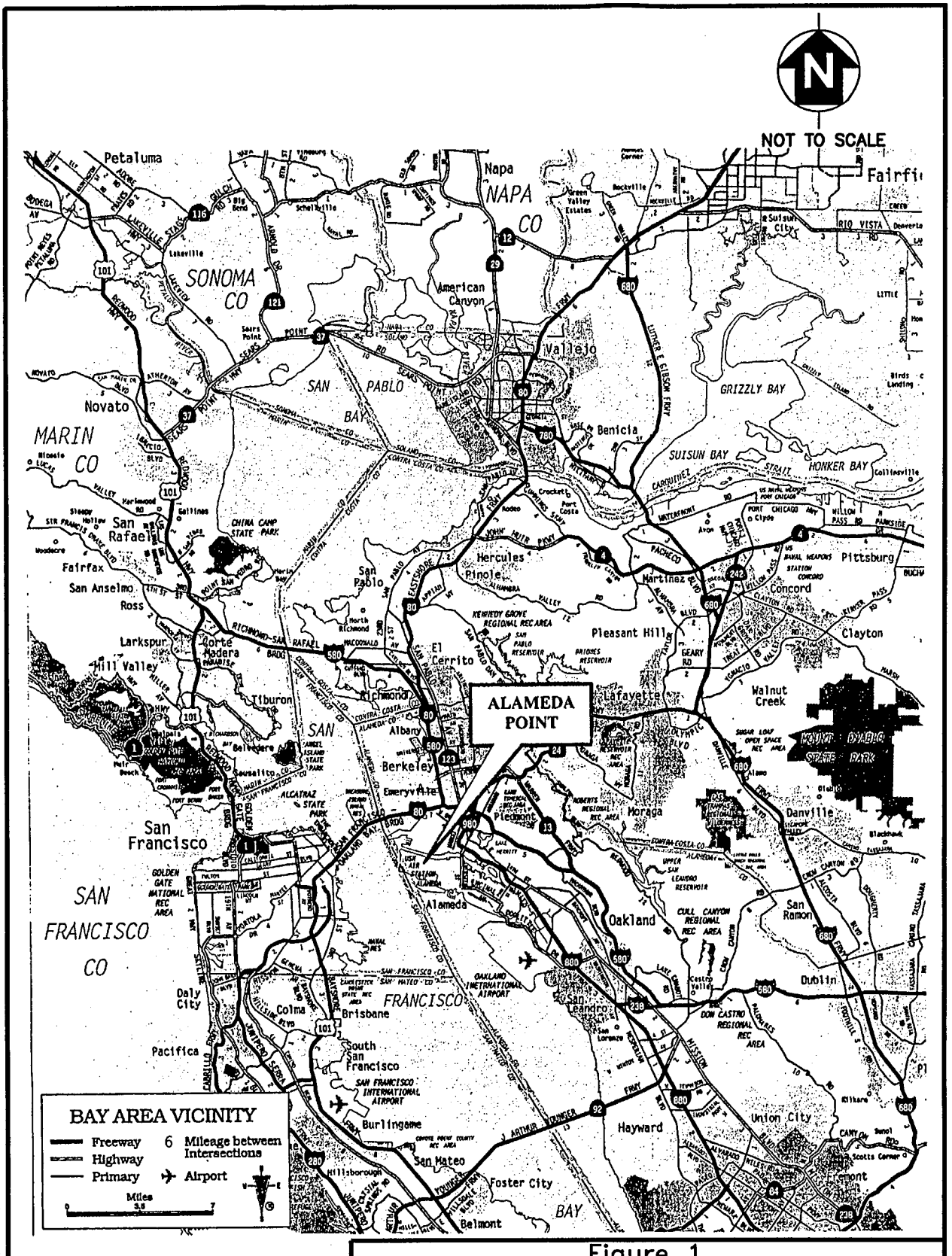


Figure 1
ALAMEDA POINT(NAS ALAMEDA)
VICINITY MAP

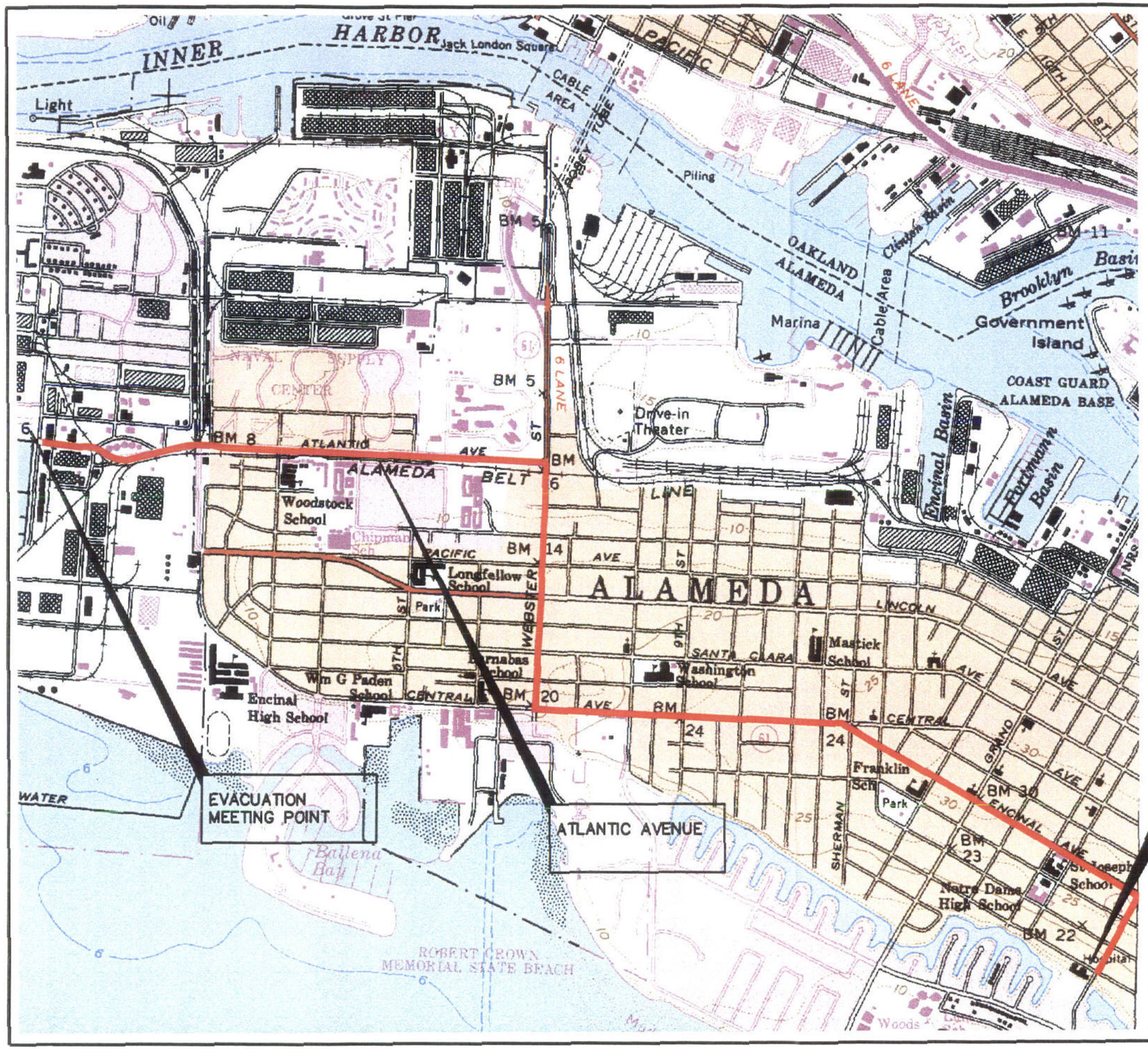
ALAMEDA, CALIFORNIA

FOSTER WHEELER
ENVIRONMENTAL CORPORATION

I:\2384-ALAMEDA\020019\0200191.DWG
PLOT/UPDATE: OCT 24 2001 09:23:45

HOSPITAL DIRECTIONS:

TAKE ATLANTIC AVENUE TO WEBSTER STREET AND TURN RIGHT. FOLLOW WEBSTER TO CENTRAL AVENUE AND TURN LEFT. FOLLOW CENTRAL UNTIL IT SPLITS AND TAKE THE RIGHT FORK THAT IS ENCINAL AVENUE. FOLLOW ENCINAL TO WILLOW STREET AND TURN RIGHT. TAKE WILLOW TO CLINTON STREET AND THE HOSPITAL IS LOCATED ON THE CORNER.



ALAMEDA HOSPITAL
2070 CLINTON AVENUE
ALAMEDA, CA 94501
(510) 522-3700

Figure 2
ROUTE TO HOSPITAL

Fleet and Industrial Supply Center Oakland
Alameda Facility/Alameda Annex

FOSTER WHEELER
ENVIRONMENTAL CORPORATION